2022 IR Assessment Methodology Comments Received:

(*via electronic mail 3/15/2021*)

March 15, 2021

Michigan Department of Environment, Great Lakes, and Energy
Water Resources Division
P.O. Box 30458 Lansing, MI 48909-7958
GoodwinK@michigan.gov

Re: Comments on Draft 2022 Integrated Report Assessment Methodology

Dear Mr. Goodwin,
On behalf of the Huron River Watershed Council, National Wildlife Federation, and Need Our Water, we thank you for the opportunity to submit these comments concerning Michigan's draft 2022 Integrated Report Assessment Methodology. As set forth below, we believe that EGLE should revise the methodology to allow for the consideration of existing data on foam containing per- and polyfluoroalkyl substances ("PFASs") when the agency assesses designated use support for surface waters of the state. We also believe that in addition to formally listing surface waters as impaired due to PFAS-containing foam (hereafter "PFAS foam") where appropriate, EGLE should report on all instances of foam containing PFASs in the Integrated Report in accordance with section 305(b) of the Clean Water Act.

Background
In Michigan, foam containing extraordinarily high concentrations of PFASs has been found in lakes and streams across the state. For example, for years, residents of Oscoda have noticed large amounts of sticky, suspicious foam on the surface of Van Etten Lake and other bodies of water near the former Wurtsmith Air Force Base – an area known to be contaminated by PFASs. In the summer of 2017, testing of foam collected from Van Etten Lake showed that the foam was laden with PFASs, primarily perfluorooctanesulfonic acid ("PFOS"). The Air Force's and the State's sampling results showed that the foam contained concentrations up to nearly 165,000 parts per trillion ("ppt") of total PFAS. *Van Etten Lake*, MICHIGAN.GOV, https://www.michigan.gov/pfasresponse/0,9038,7- 365-86511_82704_83952-512946--,00.html (last visited Mar. 4, 2021). A month after receiving those disturbing sampling results, the Michigan Department of Health and Human Services ("MDHHS") issued an advisory cautioning residents against swallowing foam from Van Etten Lake. Later, MDHHS warned people across the state, and in Oscoda specifically, to avoid contact with foam on lakes and rivers impacted by PFAS contamination. *See* Letter from Abiy Mussa, Toxicologist, MDHHS, to Denise Bryan, Health Officer, Dist. Health Dep't #2, at 3–4 (May 21, 2019), https://www.michigan.gov/documents/pfasresponse/VEL_Surface_Water_and_Foam_LHC_-21_May_2019_- Final_655863_7.pdf; *PFAS Foam on Lakes and Streams*, MICHIGAN.GOV, https://www.michigan.gov/pfasresponse/0,9038,7-365-88059_91295---,00.html#:~:text=Swallowing%20foam%20with%20PFAS%20could,after%20the%20day's%20outd oor%20activities (last visited Mar. 15, 2021).

Although PFAS foam may sometimes be only fleeting, its persistent recurrence on surface waters has disrupted the lives of many. In particular, the foam has forced many Michiganders, including Oscoda residents, to choose between swimming and risking their health. Given the highly

concentrated nature of PFAS foam, accidental ingestion of the foam while swimming poses a major exposure risk, and dermal contact with the foam may also carry risks. Consequently, due to the challenge and stress of avoiding contact with PFAS foam, some people, including members of Need Our Water and their families, have chosen to refrain entirely from swimming in Van Etten Lake and other nearby lakes.

Moreover, PFAS foam may threaten wildlife. For instance, at Van Etten Lake, observers have reported witnessing waterfowl swimming in and around tainted foam, sometimes attempting to clean off foam that had stuck to their bodies. If such contact with PFAS foam occurs, it is almost certain to result in significant exposure. To our knowledge, most studies examining PFAS uptake by wildlife have not involved PFAS foam. A recent laboratory study aiming to mimic field conditions of aqueous film forming foam reported associations between compounds in the PFAS mixture and changes in neurotransmitters in the brains of leopard frogs (Foguth et al. 2020. Neurotoxicology and Teratology, 81, 106907).

Argument

The federal Clean Water Act requires that states establish water quality standards for water bodies, consisting of three components: (1) designated uses, (2) water quality criteria designed to protect those designated uses, and (3) an antidegradation policy. 33 U.S.C. §§ 1313(c)(2)(A), (d)(2). Water quality criteria may be expressed as numeric values or narrative statements, representing a quality of water that supports a particular designated use. 40 C.F.R. § 131.11(b). States must establish narrative water quality criteria where numeric criteria cannot be established or to supplement numeric criteria. 40 C.F.R. § 131.11(b)(2).

The presence of PFAS foam in surface waters may impair Michigan's water quality standards. All surface waters in Michigan are required to support (1) indigenous aquatic life and wildlife, and (2) total body contact recreation from May 1 to October 31.1 MICH. ADMIN. CODE r. 323.1100(1)(e), (2); *see also id.* r. 323.1044(x) (defining total body contact recreation as "any activities normally involving direct contact with water to the point of complete submergence, particularly immersion of the head, *with considerable risk of ingesting water*, including swimming") (emphasis added). Furthermore, Michigan's narrative criteria specifically impose limitations on the amount of foam that may be present in surface waters of the state. *Id.* r. 323.1050 (prohibiting foam "in unnatural quantities which are or may become injurious to any designated use"). Thus, in cases where the incidence or concentration of PFAS foam might threaten indigenous wildlife or impair people's ability to swim due to the risk of accidental ingestion, the presence of foam might indicate that a lake or stream segment is failing to support either or both of those designated uses.

EGLE must consider data and information concerning PFAS foam when assessing whether lakes and streams meet Michigan's water quality standards because such data and information are relevant

1 The Part 4 rules provide that "[a]ll surface waters of the state are designated and protected for total body contact recreation from May 1 to October 31 in accordance with the provisions of R 323.1062." MICH. ADMIN. CODE r. 323.1100(2). While the focus of Rule 323.1062 is on microorganisms such as *E. coli*, in practice, EGLE more broadly assesses support for the total body contact recreation designated use. Specifically, the agency considers pH as well as *E. coli* data. EGLE, Public Comment Draft of 2022 Integrated Report Chapter 3 Assessment Methodology, at 19. This demonstrates that EGLE has determined that it has considerable flexibility in assessing support for the total body contact recreation designated use.

to water quality. Under section 303(d) of the Clean Water Act, states must identify waters for which a water quality standard – including narrative criteria that protect designated uses – has not been met. 33 U.S.C. § 1313(d). While the Clean Water Act affords states discretion to determine whether a water body meets water quality standards, U.S. EPA regulations require states to evaluate "*all* existing and readily available water quality-related data and information" in developing their 303(d) lists. 40 C.F.R. § 130.7(b)(5) (emphasis added). In Michigan, data and information concerning PFAS foam – including foam advisories issued by MDHHS and sampling of PFAS concentrations in foam taken from numerous lakes and streams – exist and are readily available. *See, e.g., Surface Water and Foam Results*, DATA.MICHIGAN.GOV, https://data.michigan.gov/Environment/Surface-Water-and- Foam-Results/u228-bxe6/data (last visited Mar. 3, 2021). Furthermore, PFAS foam data and information may serve as an indicator of water quality. As explained above, information regarding the incidence or concentration of PFAS foam is germane to Michigan's narrative water quality criterion concerning foam, and may suggest that a lake or stream segment is failing to support indigenous aquatic life and wildlife or total body contact recreation.

Therefore, we recommend the following actions:

(1) EGLE should consider data concerning PFAS foam when assessing designated use support. Such data should include, but not necessarily be limited to, foam advisories issued by the state of Michigan, foam sampling results, and photographic images of foam and other observational data, where any additional evidence indicates a likely PFAS-containing foam source. If EGLE determines that a water body is failing to attain a designated use due to PFAS foam, it should formally list that water body as impaired in Michigan's 303(d) list.

(2) At a minimum, EGLE should document all instances of foam containing PFASs in the Integrated Report pursuant to section 305(b) of the Clean Water Act. In general, section 305(b) requires states to provide information on the water quality status of all waters in the state, including an "analysis of the extent to which all navigable waters of the state provide for the protection and propagation of . . . wildlife, and allow recreational activities in and on the water." 33 U.S.C. § 1315(b). Because PFAS foam data is pertinent to that status, EGLE should report on its water quality assessment of water bodies where PFAS foam has been found, even if the agency decides against listing certain water bodies as impaired on the basis of PFAS foam. In doing so, EGLE might rely on data sets created by the Michigan PFAS Action Response Team ("MPART") which contain results from foam sampling the state has conducted. *Surface Water and Foam Results*, DATA.MICHIGAN.GOV, https://data.michigan.gov/Environment/Surface-Water-and-Foam-Results/u228-bxe6/data (last visited Mar. 3, 2021).

Conclusion

In summary, we appreciate the opportunity to provide comments on Michigan's draft 2022 Integrated Report Assessment Methodology, and urge EGLE to consider foam data when assessing support for the total body contact recreation and indigenous aquatic life and wildlife designated uses. We believe that this change to the methodology will allow EGLE to evaluate water quality in a way that more accurately reflects the conditions of the state's surface waters.

Respectfully,
Mike Shriberg
Regional Executive Director Great Lakes Regional Center National Wildlife Federation

Anthony Spaniola
Founding Member
Need Our Water (NOW)

Daniel A. Brown
Watershed Planner
Huron River Watershed Council

EGLE Response to Comment:
(*via electronic mail 1/7/2022*)

Dear Mr. Shriberg, Mr. Spaniola, and Mr. Brown:

I appreciate your collective thoughts, interest, and the time you spent to offer up comments during Michigan's Public Comment period on the Draft 2022 Integrated Report Assessment Methodology this past spring. I wanted to provide a response to your recommendations to consider foam data in the assessment process and make you aware of an upcoming opportunity to comment on the Draft 2022 Integrated Report as a whole.

Michigan developed water quality values protective of aquatic life and human health for various PFAS compounds in surface water as early as 2010. Similarly, the analysis of PFAS in fish tissue for the development of fish consumption advisories and associated Fish Consumption designated use impairments have been ongoing since at least 2011. The earliest identification and designations of impaired designated uses were based on monitoring related to Wurtsmith Airforce base and Clarks Marsh (first listed as impaired using data in 2014; VanEtten Lake was listed in 2016).

Because there are no established water quality standards related to PFAS in foams there are no plans to use those data in water quality assessment as recommended in your comments. The use of foam information for future monitoring efforts will continue to be the primary function in the monitoring and assessment process. Water chemistry and fish tissue monitoring for PFAS around Michigan continues to be a significant focus of the Water Resources Division using scientifically established and protective water quality values and public health thresholds. Please note that while analyzing foam composition is not part of our assessment process for PFAS, EGLE uses reports of PFAS-containing foams to identify and prioritize where to monitor for potential PFAS-related water quality concerns.

Additionally, as noted in your comment letter, information on the locations of confirmed PFAS-containing foams is currently readily available through the MPART web site for public information. The integrated report process, and the related 305(b) list, is not intended to be a water quality data storage/reporting system, rather the compilation of the assessment decisions made using relevant data. Because PFAS foam data are not specifically incorporated in the assessment of designated use support for the Integrated Report, and because PFAS-containing foam location data are already available, there is no plan to report those data in the 305(b) list.

While avoiding foams on lakes and rivers impacted by PFAS contamination is recommended, it is also acknowledged that PFAS does not easily move through skin, and that recreating in water containing PFAS is not considered harmful. Precautionary foam advisories are understandably concerning for residents of those areas but have not resulted in any known beach closures or other limits to recreating other than as an informational warning. Clearly, individuals must make personal decisions regarding their comfort and safety, but at this time there are no plans to use foam warnings in assessing recreational contact designated uses.

The Draft 2022 Integrated Report is expected to be out for Public Notice starting in mid-late January, 2022. We welcome your review and any comments and want to particularly draw your attention to the summary of new proposed impairments based on PFOS in fish tissue at over two dozen locations (see Figure 4.1 in the Draft Report, when released). Notification of the Public Notice period will appear on the EGLE Calendar web page and through an email list notice. If you are not on the email list and would like to be added, please subscribe to Email Updates.
Feel free to follow-up with any additional questions, your input is appreciated and thank you for highlighting your perspective on the importance of PFAS-containing foams in Michigan.

Sincerely, Kevin Goodwin

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